BS EN 50149 Cu CATENARY MESSENGER

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Hard-Drawn Copper Stranded Railway Overhead Catenary Messenger Wire

BS EN 50149 / DIN 48201-1 · 1.5/3 kV DC · 15/25 kV AC · −40…+100 °C industrial Cu

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Application

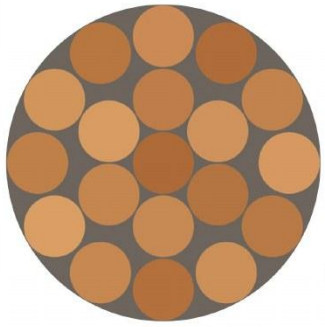
Hard-Drawn Copper Stranded Railway Overhead Catenary Messenger Wire (Cu CATENARY MESSENGER) engineered to BS EN 50149 / DIN 48201-1 for 1.5/3 kV DC · 15/25 kV AC service across −40…+100 °C, featuring central king wire & inner hard-drawn copper and

Typical uses: 25 kV AC & 1.5/3 kV DC Railway Overhead Catenary, Mainline High-Speed & Urban Metro Transit, Trackside Signalling & Traction Substations, Railway Rolling Stock & Infrastructure

Construction



CU CATENARY MESSENGER TEBAOFLEX.COM



Cross-section, not to scale

1	Central king wire & inner hard-drawn copper	BS EN 50149 / DIN 48201-1
2	Concentric outer copper stranding layer	BS EN 50149 / DIN 48201-1

Technical data

Typical values

Rated voltage / duty	1.5/3 kV DC · 15/25 kV AC (BS EN 50149 / DIN 48201-1)	**Conductor construction**	Central king wire & inner hard-drawn copper — Hard-drawn Cu-ETP or CuMg bronze core wires for overhead catenary tension support
Primary insulation / dielectric	Concentric outer copper stranding layer — Concentric-lay hard-drawn copper outer wires (7, 19 or 37 strands per EN 50149)	**Continuous operating temperature**	−40…+100 °C per BS EN 50149 / DIN 48201-1
Short-circuit / peak thermal limit	+160 °C to +250 °C (5 s adiabatic limit depending on dielectric class)	**Minimum installation temperature**	−5 °C (thermoplastic) / −25 °C (cross-linked or elastomer) / −40 °C (metallic)
Outer protection / covering	Concentric outer copper stranding layer — Concentric-lay hard-drawn copper outer wires (7, 19 or 37 strands per EN 50149)	**Minimum bending radius**	20 × OD (installed / static routing)
Layer count & geometry	2 concentric/structural layers verified by cross-section inspection	**Environmental & chemical durability**	Engineered for industrial service in accordance with BS EN 50149 / DIN 48201-1
RoHS & REACH compliance	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant	**Standards**	BS EN 50149 / DIN 48201-1

Sizes

10 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Nominal area	Stranding	Outer Ø ≈ mm	Weight ≈ kg/km	Rated tensile kN ≈	Min. sheave R mm
Cu CATENARY MESSENGER Standard Transmission & Distribution Schedule (−40…+100 °C) 10 sizes						
☐ Cu CATENARY MESSENGER 50 mm²	50 mm²	7/3.00 mm	9.0	138	14.5	180
☐ Cu CATENARY MESSENGER 95 mm²	95 mm²	19/2.52 mm	12.6	262	28.2	252
☐ Cu CATENARY MESSENGER 120 mm²	120 mm²	19/2.85 mm	14.3	334	36.4	286
☐ Cu CATENARY MESSENGER 150 mm²	150 mm²	26/2.70 + 7/2.10	17.1	546	53.8	342
☐ Cu CATENARY MESSENGER 185 mm²	185 mm²	26/3.00 + 7/2.33	19.0	674	65.2	380
☐ Cu CATENARY MESSENGER 240 mm²	240 mm²	26/3.44 + 7/2.68	21.8	885	84.5	436
☐ Cu CATENARY MESSENGER 300 mm²	300 mm²	26/3.86 + 7/3.00	24.5	1,110	104.2	490
☐ Cu CATENARY MESSENGER 400 mm²	400 mm²	54/3.08 + 7/3.08	27.7	1,432	126.0	554
☐ Cu CATENARY MESSENGER 500 mm²	500 mm²	54/3.44 + 7/3.44	31.0	1,790	156.5	620
☐ Cu CATENARY MESSENGER 630 mm²	630 mm²	54/3.86 + 19/2.32	34.8	2,245	194.0	696

– Custom kcmil/code-word sizes, grease-filled corrosion protection and non-specular surface finishes available per BS EN 50149 / DIN 48201-1.

DC resistance & continuous current ratings

6 sizes

Nominal area	Max. DC R_{20} Ω/km	Continuous current A ≈	Operating temp.
50 mm²	0.578	210	−40…+100 °C
95 mm²	0.304	320	−40…+100 °C
150 mm²	0.192	435	−40…+100 °C
240 mm²	0.119	590	−40…+100 °C
400 mm²	0.072	820	−40…+100 °C
630 mm²	0.046	1,080	−40…+100 °C

– Ampacity calculated per IEEE 738 (0.6 m/s wind, 40 °C ambient, 0.5 solar absorptivity / emissivity).

Standards and approvals

- BS EN 50149 Compliant
- EN 10204 3.1 Routine Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

Certifications

Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/cu-catenary-messenger-hard-drawn-copper-wire

Typical values for this cable type, based on BS EN 50149 / DIN 48201-1. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.